FASwitch wows flexible display community

Rolltronics Corp, specialising in next-generation flexible technologies, has demonstrated a new technology that may eliminate the need for transistors in some display products.

At the Flexible Display conference in Phoenix, Arizona, Rolltronics unveiled the world's first display prototype that uses their FASwitch active matrix technology with the electronic ink technology from E Ink Corp.

The prototype successfully displayed white, black and gray-scale pixels. Industry response was reported as tremendous. A major consumer electronics firm director stated, "FASwitch is a category-killer. This will shake up the industry."

"Conventional wisdom is that 'a switch is a transistor.' But FASwitch is a fresh and different approach that changes the rules," says Michael Sauvante, FASwitch CEO and co-inventor. "What does a transistor really do? A transistor is just a switch. So we set out to create an affordable thin film switch without using silicon."

"FASwitch is a micro electro-mechanical thin film switch that can replace the transistors used in active matrix arrays.

"FASwitch is based on electro-statically-driven TF membrane switches that are patterned with metal traces to form active matrix switch arrays (no silicon), and can be produced with the same tools and processes as those used in the flexible circuit board industry," says Nicholas Pasch, Rolltronics' chief scientist.

FASwitch has the potential to enable large area, low cost flexible electronics by being manufactured in a roll-to-roll process.

The first commercial application of FASwitch will be in large area displays, targeted initially at the signage market.

Vibration and glass engraved keyboard and GLC emerges

A virtual keyboard applied to glass, is planned to be ready by spring 2005. Two vibration sensors are mounted on the back of the glass to detect precisely which keys are selected.

"I had the idea of associating this signature with an action and creating a sort of virtual command table. A small sensor, the accelerometer, placed nearby, then detects the sound waves and analyses the acoustic signature. If the signature is recognised, the intended action is executed, if not, nothing happens," explains Ros-Kiri Ing, president/founder of Sensitive Object, that developed and patented ReverSys.

Designed as a standard product, this can be used on any plate glass surface that is up to $2m^2$ in size and 10mm thick and it can be engraved into glass.

Easy to maintain, robust and with no moving parts it was used in Ariane launchers. Applications include medical for hygene and wet locations as glass is water impervious and well protected against vandals.

Another new material is glassy liquid crystals (GLC) that emit colour polarised light, eliminates the need to loose half the light a system produces. This solid, stable film, is clear as glass but with highly ordered molecules. The patented technology is licensed to Cornerstone Research Group, Dayton, Ohio for production of materials in quantities for testing, experimental use, and product development in displays, optical drives and 'colour tunable' filters.

Web: **www.sensitive-object.com/pages/en/recherches.html**

Web: **www.crgrp.net/**